MODIS TECHNICAL TEAM MEETING

February 23, 1995

The MODIS Technical Team Meeting was chaired by Vince Salomonson. Present were Locke Stuart, Barbara Putney, Bill Barnes, Joann Harnden, John Barker, Harry Montgomery, Steve Ungar, and Chris Justice.

1.0 SCHEDULE OF EVENTS

Feb. 21 - 24	Workshop on International Calibration/Validation Efforts for EOS Ocean Color Sensors, in Miami, FL
Feb. 27-28	EOSDIS Preliminary Design Review Wrap-up of all Segments
March 1 - 2	SWAMP Meeting
March 20	EOS AM Quarterly Management Review for MODIS
April 5-7	MODLAND Workshop
April 11-13	EDC Land DAAC Advisory Panel
April 15	Quarterly Reports Due to Barbara Conboy
April 18-19	Science Software Integration and Test Workshop
April 28	Level 2 Software Integration Review
April 30 - May 1	CEOS Meeting -- Best Western Hotel, Lanham, MD
May 2	MODIS Calibration Working Group -- Marriott Hotel
May 3 - 5	MODIS Science Team Meeting -- Marriott Hotel, Beltsville

2.0 MINUTES OF THE MEETING

2.1 SWAMP

Salomonson announced that he will be attending the upcoming SWAMP meeting, and will be presenting instrument status, the status of ATBD rewrites and software development, and the MODIS concerns/considerations from the recent ESDIS Core System Science Data Processing System (SDPS) Preliminary Design Review (PDR). [Salomonson reported that ATBD rewrites are still required from Kaufman, Strahler, Running, Clark, Esaias, Evans, and Fleig.] Salomonson expects Masuoka and Fleig to attend, and to be prepared to discuss test data sets and Level 1 and 2 gridding. Lunar calibration and data delivery will also be discussed.

2.2 Spacecraft Maneuvers

Barnes presented a table of considered spacecraft maneuvers, which will aid calibration in viewing cold space and the moon (see Attachments 1 and 2). Associated risks and level of usefulness were addressed. Barker stressed that the suggested frequency of maneuvers should be carefully considered: recommending a certain frequency at this time could "lock down" that frequency and allow for no flexibility in the future. Cooler warm-up rates and risks were

discussed: in many cases the length of maneuver is limited by the cooler temperature constraints. Modulation transfer function problems were mentioned by Montgomery. A maneuver, to allow cross-calibration between AM-1 and PM-1, was suggested as important to maintain data continuity at a satisfactory level of accuracy. There was considerable discussion of the relative priorities of the suggested maneuvers. Generally, maneuvers affecting the calibration of AM-1 were considered to be of more immediate concern than maneuvers affecting more than one spacecraft.

2.3 Future Field Campaigns, Instrumentation

Salomonson mentioned that there is an evolving perception that collaboration with other agencies with regard to validation, field campaigns, etc., will become increasingly important in the future. Justice mentioned that there are a number of "new players" at all organizational levels, and that grass roots collaboration needs to be encouraged to make the most of activities in the different agencies and to initiate new proposals. Justice cited the Amazon Basin Experiment, which will occur about a year before launch, and GEWEX as examples of international terrestrial field programs that will be needed in the EOS time frame.

2.4 SDST Report

Putney reaffirmed that the NASA Headquarters' software review has been moved to March 21 and that there were no adverse implications for MODIS from the SDPS PDR. It appears that there will be a reasonable amount of hardware available for MODIS data processing.

2.4.1 Simulated Data Sets

Harnden reported that PRA software is still being tuned for simulated data generation, and that MCST has had to overcome substantial problems in using the software.

Ungar reviewed his "updated" simulated MODIS eastern USA scene, which now has instrument response functions (IRFs) included for each of the bands. Ungar is in the process of validating the IRF application by differencing the resultant product with the original simulation. The next level of simulation will include a representation of scan geometry. A geometric test pattern consisting of a 2048X2048 array of 1 km pixels has been developed to help verify and understand the scan geometry. This data set consists of six rectangular regions with a N-S orientation. Each rectangle may be assigned a specific land cover category and the reflective characteristics determined by using an optical-spectral database. Tonality gradation in the images which Ungar presented is due to a difference in illumination angle. Ungar plans to document the characteristics of his current product, and future plans, in time for the science team meeting. With Salomonson's concurrence, a version of the simulated dataset may be made available (upon request) at the science team meeting.

Ungar reported that Skip Reber and Piers Sellers are interested in the simulation, and may want to consider the dataset for other EOS-AM functions. Ungar stated that there is nothing MODIS-specific about the simulation capability, and that Barker may want to use it for Landsat.

2.5 MODIS Airborne Simulator (MAS)

Justice reported on the MODIS Team's interest in helping support MAS for overflights of the BOREAS sites in the '96 campaign. Certain members of the Land Group are interested, Running is putting together a plan, and hopefully HQ will be encouraged to see that MODIS supports the use of MAS in the '96 campaign.

2.6 MAST Reports

Stuart led off a discussion of e-mail addressing, by suggesting that MAST was considering going "generic" on e-mail addresses for NASA personnel. In the generic form, "first.last@nasa center.nasa.gov", individuals can change specific addresses, and still be reached without updating the generic address. This, of course, depends on the user's keeping the X.500 mail system address up to date with the specific address. No serious objections were raised; Barbara Conboy will work out the details of the change of address.

3.0 ACTION ITEMS

3.1 Action Items Carried Forward

1. *Barnes/Weber:* Provide Salomonson with a recent transparency of the MODIS Engineering Model, in time for the SWAMP meeting.
2. *Herring*: Present the final Agenda and Science Team Meeting logistics at the next Technical Team Meeting. [The Agenda is still being iterated by the Team.]
3. *Guenther:* Report the modeled results of the 1,000K source for SBRC's integration and alignment collimator to the Technical Team.
4. *Weber*: Work with SBRC to obtain MODIS test data. [Test data are forthcoming from SBRC.]
5. *MODIS Team*: Determine how, given the MODIS bowtie effect, MODIS images will be produced at launch. [This may be a suitable topic for discussion at the next Science Team Meeting.]
6. *Fleig and Ungar*: Interact with the group leaders prior to developing a MODIS data simulation plan for review at the next Science Team Meeting. [Work on this item is still in progress.]

3.2 Closed Action Items

2. *Herring:* Invite Ricky Rood to attend the upcoming MODIS Science Team Meeting.

4.0 ATTACHMENTS

Note: All recent MODIS documents are maintained in MODARCH. If you would like access to or information about MODARCH, please contact the MODARCH System Administrator, Michael Heney, at (301) 286-4044 or via e-mail at mheney@ltpmail.gsfc.nasa.gov.

1. MODIS - Lunar and Deep Space Maneuvers, by Bill Barnes
2. The Relationship of Lunar Trajectories to the MODIS orbital axis path, by Bill Barnes